



HQ Explorer Program Executives, what do they do?



Heliophysics Explorers Program
Willis Jenkins, Sr. Explorers Program PE

Willis Jenkins, ICON Mission PE

Bill Stabnow, GOLD Mission PE

Astrophysics Explorers Program
Mark Sistilli, Explorers PE

Mark Sistilli, TESS & IXPE Missions PE

Lucien Cox, GUSTO Mission PE

Shahid Habib, XARM Mission PE



*Heliophysics and Astrophysics Science Divisions, Science Mission Directorate,
NASA Headquarters*



Role of a Program Executive (PE)

Much like Janus, the two-faced god of gates, doors, doorways, it beginnings and *endings with the PE.*

Your project's
Point of Contact
and
Advocate
at NASA HQ



But also NASA HQ's
Enforcer
of Gov't and NASA
rules, regulations, and
seemingly endless
requests for data and
information on
unreasonably short
time frames



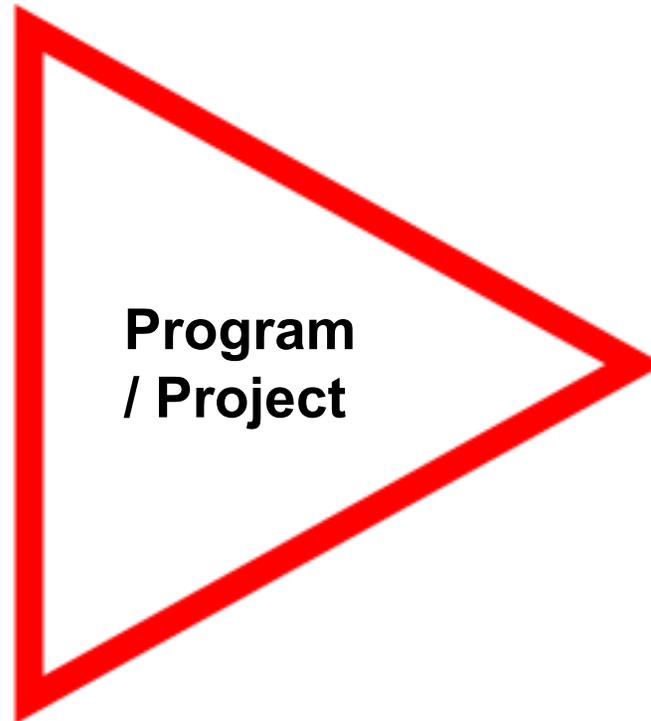
The PE is part of a HQ “Triad”



Program Scientist



Program Analyst



Program Director



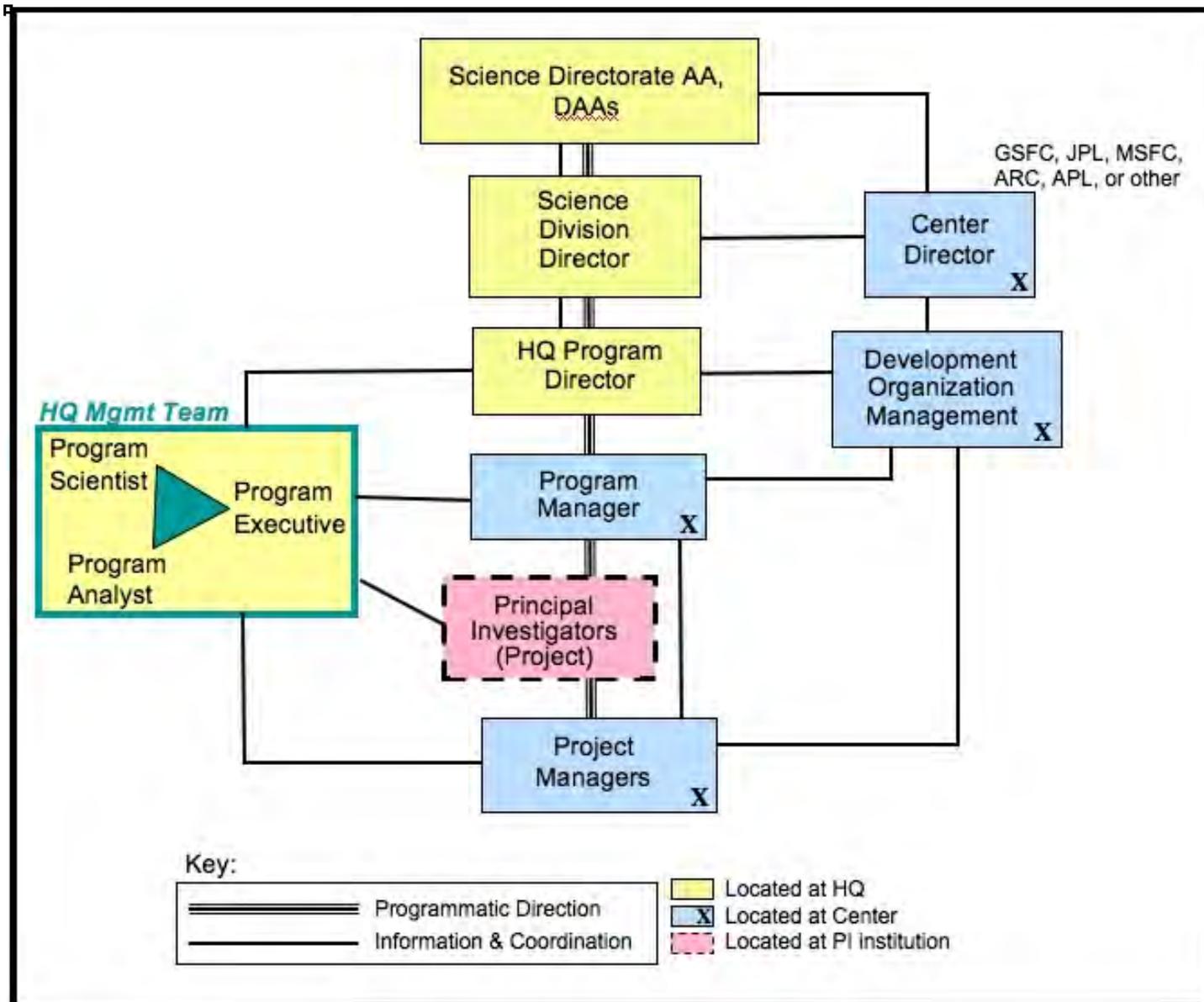
Program Executive



***HQ Management Team
(Program Officers)***



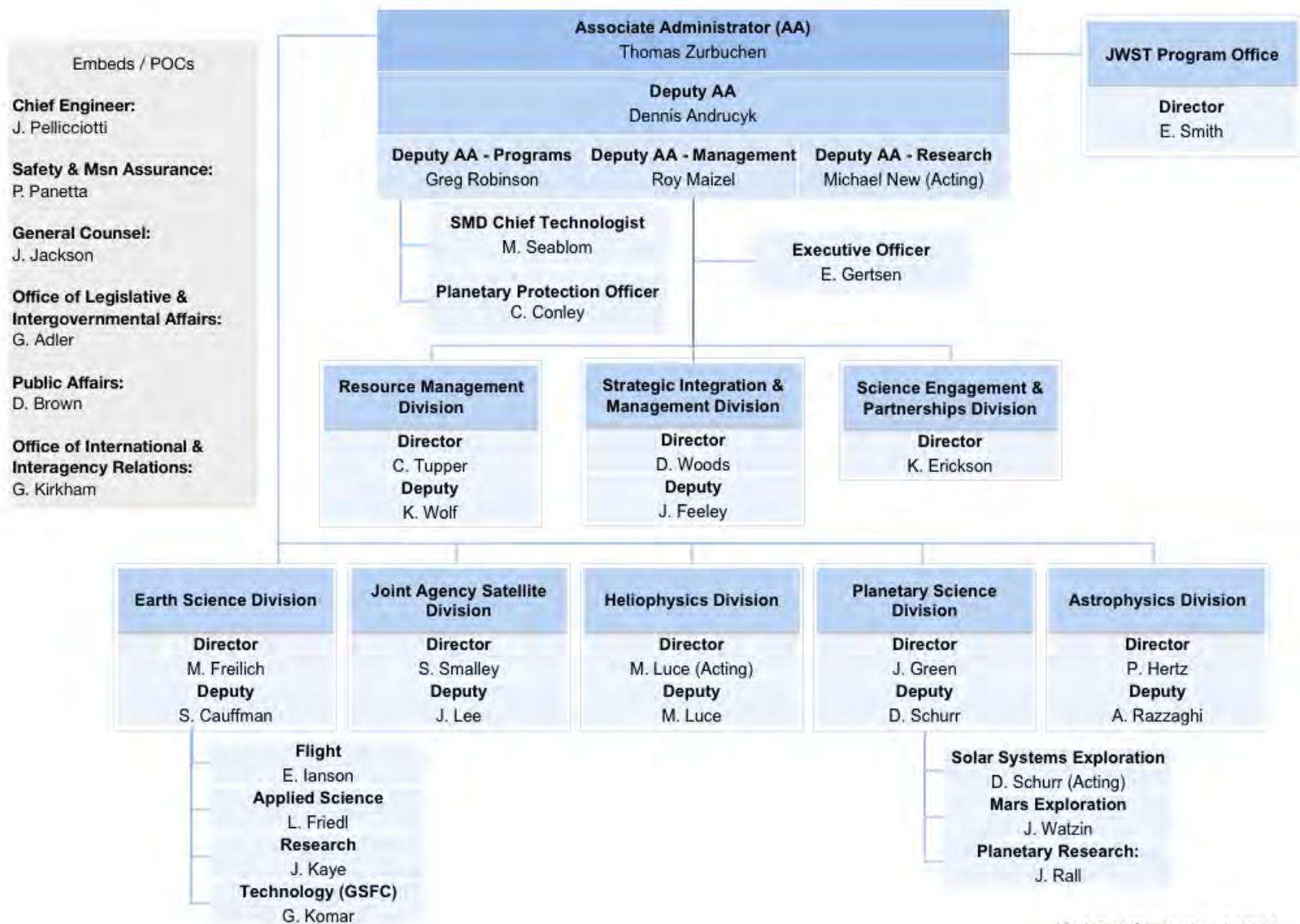
SMD Management Accountability



*Division has the authority to delegate to the PE



SMD Organization





The PE:



- Facilitate transitions between Phases to get your project through each gate
- Helps you understand what is required for each direction and process
- Open the doors of all of mission support and directorate offices on your behalf
- Create the documentation required at the end of each phase or process (i.e. key decision point KDP)
- Is your day to day spokesperson at HQ





NASA Space Flight Program and Project Management Requirements



NASA NPR 7120.5E

- **3.2 Roles and Responsibilities**

- 3.2.1c. The Mission Directorate Associate Administrator (MDAA) may designate some of his/her Programmatic Authority to deputy associate administrator, division directors, or their equivalent such as program directors and center directors.

For a program/project the designated Program Executive supports and recommends action to the MDAA, Deputy AA for Flight Program and Division Director and is delegated responsibility for roles and responsibilities assigned to the MDAA.

Within SMD, specific responsibilities of PE are reiterated in the SMD Handbook (see backup slides)



Your Advocate, the PE

- Defends your status to Division Director every week and to SMD management every month (and any other requested time).
- Promote project science and success highlights to NASA Leadership
- Expected to know MANY details on anything related to your project, sometimes a weed picker. If it is not known, the PE must find out quickly when asked.
- Help you prioritize activities and determine relevance.
- Push to get your required documentation out of the inbox, signed, and on to the next step in approval.
- Push to keep you off the lists for 'pilot programs/projects' that usually add new requirements.
- Defends your budget as unexpected needs arise elsewhere.
- Initiate and manage required documentation

- Formulation Authorization Document (FAD)
- Major Project Annual Report (MPAR)
- Program Commitment Agreement (PCA)
- Program Level Requirements Appendix (PLRA)
- Project plan
- Performance Plan, Budget and Execution (PPBE) submits,
- Orbital debris, mishap plans, National Environmental Policy Act NEPA, etc



So you don't need to!



Your Advocate, the PE con't



- **Represents you to**

- Procurement and Science Support Office for proposals
- Procurement for protests
- Other Mission Directorates in cooperative efforts
- External Affairs with Memorandum Of Agreement, Letters of Agreement, and International Partnerships
- Legislative Affairs for immediate turn around information and defense of budget
- General Counsel as needs arise (export control, protests, other) Office of Chief Financial Officer (OCFO): baseline reports for the Office of Mgmt & Budget (OMB), General Accounting Office (GAO) reports, Basis Of Estimates (BOEs), Joint Cost & Schedule Confidence Levels (JCLs), Cost Analysis Data Requirement, Strategic Mgmt Council CADREs, official documentation for the Strategic Mgmt Council (SMC)
- Launch Services to get your NASA sponsored Launch Vehicle requirements satisfied on time
- Public Affairs when the news is good or bad
- Office of Chief Engineer (OCE) for 7120 waivers
- Standing Review Board (SRB) membership, Terms of Reference (TOR), reviews





The PE is NASA's Enforcer



- Must ensure that you follow and be in accord with:
 - Engineering Standards (Gold rules, Design Principles, etc)
 - NPR 7120.5E
 - NPD 1000.5B
 - SMD Handbook (guidelines)
 - Earned Value Management (EVM) reporting
 - Science Data Access Policies
 - Cost and obligation metrics
 - Orbital debris policy, education and outreach policy, etc.
- Must assess and report
 - Technical performance and risks
 - Project/Program status: technical, schedule, cost and overall
 - Mission success criteria and accomplishment





A PE's Life at HQ



- A lot of rapid swirling and chasing with an indeterminate outcome (i.e. 6 month budget cycle)
- PE acts as the buffer (i.e PE is the “clutch”)
- PE needs to be flexible

• Sometimes we are chasing,

• and sometimes we are being chased





PE's most important Tools



- Open communication is the key
 - Maintain “open door” policy - both directions
 - Project to PE and PE to Project
 - Mostly to , Mission Manager (Program Office Representative) and Project Manager , but sometimes other key project staff (Principal Investigator, Resource Analyst, launch vehicle manager, etc)
 - PE manages by influence
 - Uses an integrated team approach (we are all in it together)





PE's Tools

- How do PE accomplish goals?
 - Build firm foundations
 - Gain and maintain trust & respect
 - Foster a positive relationship
 - Teamwork is the key to mission



success



PE's Tools



- Sometimes a PE helps you to see the “Big Picture”
 - Take you out of your comfort zone
 - Help you see things a different way
 - Prevent you from entering a downward spiral
 - Help with clarification of request





PE's Main Goals



- Keep your project “balance and on target” to achieve:

A mission

- Within cost
- On schedule
- Having a successful launch
- Achieving science objectives





Value Added by a PE

- Implement project request and requirements through the NASA governance model processes
- Pushes back on impacts by new policies, and procedures
- Provides access to large, external experience base
- Keeps the project in “positive light” with the Division and SMD by keeping them well informed
 - But prepare the ground in case of bad news
- Navigates NASA bureaucracy
- Acts as a “referee”
- Keeps HQ and it’s management informed





Hope that you ..

- See the PE as both Advocate



- and *Enforcer*



- Help us balance the roles as needed
- Help us help you to achieve

Mission success





Back-up



Reference Documents



- Agency and Center review processes as documented, NPR 7120.5E
- NASA Space Flight Program and Project Management Requirements, NPR 7123.1B
- NASA Systems Engineering Processes and Requirements
- SMD Management Handbook



SMD Handbook (1 of 7)



5.0 Flight Program Management and Assessment

- 5.2 Program/Project Management Roles and Responsibilities
 - 5.2.2 Program Executive
 - The SMD AA designates individuals at NASA HQ to sponsor specific programs and projects.
 - The SMD AA delegates responsibilities to the PE through the Division Directors (DDs).
 - The PE serves as the DD's technical arm to keep track of programmatic activities and ensure the project is initiated and executed according to approved processes.
 - The PE acts as the primary interface for the DD with the Program and Project Managers at the Center or other implementing organizations, maintaining a current knowledge of project status.
 - Through this delegation, a PE has the following responsibilities:



SMD Handbook (2 of 7)



5.0 Flight Program Management and Assessment

- 5.2 Program/Project Management Roles and Responsibilities
 - 5.2.2 Program Executive (PE)

INITIALIZES PROGRAMS AND PROJECTS (PRE-PHASE A)

- Tracks Directorate-initiated studies to define new missions and determine their feasibility and desirability
- Represents program interests on working groups having a charter to define classes of future missions and generate science implementation plans
- Establishes working groups to determine the advanced technologies necessary to enable future science missions.
- Maintains working relationships with NASA Center management, programs, and projects, as required to have a sound informational foundation for recommending programmatic actions.
- Provides liaison with HEOMD's launch-vehicle provider organization.
- Develops and maintains key peer-to-peer working relationships with established NASA partners in order to facilitate the negotiation of new working agreements for cooperative programs
- For competitively selected missions, works with the Science Office for Mission Assessments (SOMA) at Langley Research Center (LaRC), for planetary AOs, the PPO, and PSs as required during AO activities up through formal release. Typically this entails representing program management issues from the



SMD Handbook (3 of 7)



5.0 Flight Program Management and Assessment

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INITIALIZES PROGRAMS AND PROJECTS (PRE-PHASE A) Continuation

NASA HQ perspective, answering questions from proposing organizations, especially in the area of NASA HQ policy, representing NASA HQ at pre-proposal conferences, and helping to resolve policy issues.

- Works with the PS, the PA, Program Manager, as well as the PCAT under direction from the Program Director or Associate Director for Flight and their DD, to establish the budgetary cost cap guidelines.
- Identifies the need for environmental assessment or environmental impact and defines level of activity.
- Acts as a liaison between the project and the Office of International and Interagency Relations (OIIR) to initiate and achieve interagency and international agreements.

DOCUMENTS FORMULATION (PHASE A, B)

- Writes the Formulation Authorization Document (FAD) for both new programs and new projects and negotiates approval.
- Drafts letters of assignment to selected Centers for program delegation for SMD AA approval.



SMD Handbook (4 of 7)



5.0 Flight Program Management and Assessment

- 5.2 Program/Project Management Roles and Responsibilities
 - 5.2.2 Program Executive (PE)

DOCUMENTS FORMULATION (PHASE A, B) Continuation

- Drafts Project Authorization Letters (PAL) for newly selected projects for SMD AA approval.
- Develops plans for independent assessments, working with Independent Program Assessment Office (IPAO) for membership and terms of reference for SRBs, or for those chartered by the Directorate.
- Develops content for draft external agreements and works with the Strategic Integration and Management Division (SIMD) and OIRR to formalize the agreements.
- Writes the Program Commitment Agreement (PCA) and negotiates the PCA's approval.
- Facilitates Program Manager development of the draft Program Plan.
- Establishes formal program objectives, requirements, and metrics; prepares program-level requirements; and negotiates approval.
- Ensures preparation of required NPR 7120.5 documentation, such as for National Environmental Planning Act (NEPA) documentation.
- Recommends the level of governing PMC for projects in accordance with NPR 7120.5 guidelines.



SMD Handbook (5 of 7)



5.0 Flight Program Management and Assessment

- 5.2 Program/Project Management Roles and Responsibilities
 - 5.2.2 Program Executive (PE)

DOCUMENTS FORMULATION (PHASE A, B) Continuation

- Recommends and reviews establishment of program and project budgets
- Consistent with external reporting requirement, the PE works with the PA as well as the SMD PCAT to establish probabilistic project's cost and schedule ranges, low and high, as the project down-selected and/or received approval to proceed into Phase B.
- Reviews program and project documentation provided to the SMD AA for approval.
- Reviews and works with the PA as well as the Project Cost and Evaluation Team (PCAT) to ensure the project has appropriate plans and control methodologies prior to its entry into Implementation Phase (KDP-C).
- Coordinates and facilitates completion of KDPs through the DPMC per policy.
- Ensures project is initiated in the Requirements Management System (RMS) and information content is entered and maintained for remainder of project.

MONITORS IMPLEMENTATION (PHASE C, D, E)

- Monitors and reviews Center application of project budget and staffing.
- Monitors and reviews program/project development of baseline cost and schedule.



SMD Handbook (6 of 7)



5.0 Flight Program Management and Assessment

- 5.2 Program/Project Management Roles and Responsibilities
 - 5.2.2 Program Executive (PE)

MONITORS IMPLEMENTATION (PHASE C, D, E) Continuation

- Monitors and reviews program/project management of risk.
- Reviews implementation of key agreements and contracts for launch services, spacecraft acquisition, science instruments, and other mission-critical items specific to a project.
- Provides planning and oversight of mission operations and data analysis (MO&DA) projects during the post-launch operational phases of science missions.
- Monitors and reviews program/project implementation of technical requirements.
- Participates in the budget process by reviewing Center PPBE submissions for applicable programs and projects in close coordination with the PA.
- Responds to legislative, advisory committee and press inquiries as requested by SMD AA. Develops or reviews explanatory program/project information as needed.
- Supports PS in organizing and conducting an End-of-Prime Mission review to assess performance against Level-1 requirements and documenting results in the RMS.



SMD Handbook (7 of 7)



5.0 Flight Program Management and Assessment

- 5.2 Program/Project Management Roles and Responsibilities
 - 5.2.2 Program Executive (PE)

EVALUATES PERFORMANCE (ALL PHASES)

- Assesses program performance against requirements, schedule, and budget, providing NASA HQ insight as required. Reports assessment of program/project status to Division and SMD senior staff regularly.
- Attends and reports on Center-initiated program status reviews.
- Attends and reports on selected project reviews, such as Integrated Baseline Review (IBR), Mission Definition Review (MDR), Systems Requirements Review (SRR), Preliminary Design Review (PDR), Critical Design Review (CDR), and Mission Readiness Review (MRR).
- Attends and reports on non-standard reviews (e.g. failure reviews, anomaly reviews).
- Provides advocacy and program support within NASA HQ.
- Addresses issues requiring NASA HQ actions for resolution and facilitates NASA HQ actions as required.
- After gate reviews, consults with Program Manager to determine necessary actions and decision requirements for NASA HQ. Facilitates and monitors NASA HQ's response.
- Participates in lessons-learned forums.